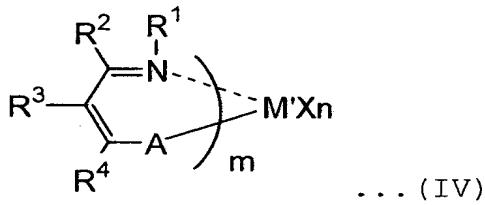


ABSTRACT

A process for producing a polar olefin copolymer comprises copolymerizing a non-polar olefin and a polar 5 olefin in the presence of a transition metal compound selected from Groups 4, 5, 6 and 11 of the periodic table, which is represented by the following formula (IV) :



wherein M' is a transition metal atom selected from Groups 10 4, 5, 6 and 11 of the periodic table, m is an integer of 1 to 6, A is -O-, -Si-, -Se-, -N(R<sup>6</sup>)-, n is a number satisfying a valence of M', R<sup>1</sup> to R<sup>4</sup> and R<sup>6</sup> are each a hydrogen atom, a halogen atom, a hydrocarbon group and the like, and X is a halogen atom, an oxygen atom, a 15 hydrocarbon group and the like, and at least one compound (B) selected from the group consisting of an organometallic compound (B-1), an organoaluminum oxy-compound (B-2) and an ionic ionizing compound (B-3). Therefore, the process is capable of obtaining a polar 20 olefin copolymer having excellent properties under mild polymerization conditions.